CHAPTER 3

RISK MANAGEMENT

3-1. **BACKGROUND.** Accidents cost the Army about 500 million dollars each year and significantly reduces mission capabilities. Because the Army must be prepared to operate worldwide in many different watercraft environments, the watercraft mission has become increasingly demanding and so have the risks inherent in that mission. This increase in risk requires leaders to balance mission needs with hazards involved and make wise risk decisions.

3-2. **DEFINITION.** Risk is the severity of a potential accident combined with the probability that it will actually happen. The loss can be death, injury, property damage, or mission failure. Risk management identifies risks associated with a particular operation and weighs these risks against the overall training value to be gained. The four rules of risk management areas follows:

- Accept no unnecessary risk.
- Accept risks when benefits outweigh costs.
- Make risk decisions at the right command level.
- Manage risk in the concept and planning stages whenever possible.

3-3. **RISK MANAGEMENT PROCESS.** The risk management process uses the following approach:

- *Identify hazards.* Look for hazards in each phase of the training or operation.
- *Assess the risk.* Ask the following questions:
  - What type of injury or equipment damage can be expected?
  - What is the probability of an accident happening?

NOTE
A low probability of an accident and an expected minor injury equals low risk. A high probability of an accident and an expected fatality equals high risk.

Develop risk control alternatives and make risk decisions. If you cannot eliminate the risk, then you must control it without sacrificing essential mission requirements. You can control some risks by modifying tasks, changing location, increasing supervision, wearing protective clothing, changing time of operation, and so on. Decisions take several forms:

- Selecting from available controls.
- Modifying the mission because risk is too great.
- Accepting risk because mission benefits outweigh potential loss.

- *Implement risk control measures.* You must integrate procedures to control risks into plans, orders, SOPs, and training. You must also ensure risk reduction measures are used during actual operations.
- *Supervise the operations.* Make sure leaders know what controls are in place, what standards are expected, and then hold those in charge accountable for implementation. This is the point when accident prevention actually happens.
- *Evaluate the results.* Include the effectiveness of risk management controls when you assess the operational results. Use lessons learned to modify future missions.

3-4. **RISK ASSESSMENT ELEMENTS.** Assessing risks has no hard and fast rules or formats. For example, pre-sail orders and inspections are in essence an assessment of risk. Different missions involve different elements that can affect operational safety. The following six elements however, are central to safely completing most missions:

- Planning.
- Supervision.
- Soldier selection.
- Soldier endurance.
- Mission environment (weather).
- Mission essential equipment.

Using matrices that assign a risk level to each of the elements is one way to quickly appreciate the overall risks. The following matrices (Tables 3-1 through 3-6) are examples of risk assessments for the six elements common to watercraft missions.

NOTE

The factors are arbitrarily weighted. Modify them based on your particular mission and unit.

- Measure planning risk (Table 3- 1) by comparing the level of guidance given to the time and effort expended on preparation.

Table 3-1. Planning matrix

PLANNING			
	PREPARATION		
GUIDANCE	INDEPTH	ADEQUATE	MINIMAL
VAGUE	Medium	High	High
IMPLIED	Low	Medium	High
SPECIFIC	Low	Low	Medium

EXAMPLE: A landing craft ordered to make a dry ramp landing on a beach that had not been surveyed for gradiant and underwater obstructions would create a high risk situation.

- Measure supervision risk (Table 3-2) by comparing command and control to the mission environment.

Table 3-2. Supervision matrix

SUPERVISION			
	MISSION ENVIRONMENT		
COMMAND/CONTROL	NONTACTICAL	DAY TACTICAL	NIGHT TACTICAL
OPCON	Medium	High	High
ATTACHED	Low	Medium	High
ORGANIC	Low	Low	Medium

EXAMPLE: Your vessel has been placed under operational control of a Navy unit. You cannot adequately communicate with the Navy unit because of equipment incompatibility and communication procedures. In a night tactical environment, the risk becomes high.

- Measure soldier selection risk (Table 3-3) by comparing task complexity with soldier experience.

Table 3-3. Soldier selection matrix

SOLDIER SELECTION			
	SOLDIER EXPERIENCE		
TASK	HIGHLY QUALIFIED	MOS QUALIFIED	OJT ONLY
COMPLEX	Medium	High	High
ROUTINE	Low	Medium	High
SIMPLE	Low	Low	Medium

EXAMPLE: You are the master operating an LCU with no mate on board in restricted waters. If you leave the bridge, you have placed the vessel at high risk.

Measure soldier endurance risk (Table 3-4) by comparing the mission environment with availability of basic needs (such as rest, food, water, and so on):

Table 3-4. Soldier endurance matrix

SOLDIER ENDURANCE			
	AVAILABILITY OF BASIC NEEDS		
MISSION ENVIRONMENT	OPTIMUM	ADEQUATE	MINIMAL
OCEAN/COASTAL	Medium	High	High
RIVERS/BAYS	Low	Medium	High
HARBORS	Low	Low	Medium

EXAMPLE: You are the master on an LSV operating coastal waters with a crew shortage that does not allow for adequate crew rest. This would place your vessel at high risk.

- Measure mission environment risk (Table 3-5) by comparing the level of supervision to the task location.

Table 3-5. Mission environment (weather) matrix

MISSION ENVIRONMENT (WEATHER)			
	AVAILABILITY OF SAFE HAVEN		
CONDITIONS	OPTIMUM	ADEQUATE	MINIMAL
SEVERE	High	High	High
UNFAVORABLE	Low	Medium	High
FAVORABLE	Low	Low	Medium

EXAMPLE: You are operating a causeway ferry during a LOTS operation off the coast with severe weather moving in. Safe haven is four hours away, but you have been released only two hours before the weather hits. This places your vessel at high risk.

- Measure essential equipment risk (Table 3-6) by comparing the availability of mission essential equipment with the readiness of that equipment.

Table 3-6. Mission essential equipment matrix

MISSION ESSENTIAL EQUIPMENT			
	EQUIPMENT READINESS		
AVAILABILITY	OPTIMUM	ADEQUATE	MINIMAL
SHORT CRITICAL	Medium	Medium	High
SHORT NOT CRITICAL	Low	Medium	High
NO SHORTAGES	Low	Low	Medium

EXAMPLE: You are a operator of a LARC-60 carrying VIP's during a LOTS operation. You do not have an enough life jackets for personnel on board. This would place crew and passengers at high risk.

- After assessing all the risks, the overall risk value equals the highest risk identified for any one element. Now is the time to focus on high risk elements and develop controls to reduce risks to an acceptable level. Control examples may include more planning, changes in location, supervision, personnel or equipment, waiting for better weather, and so on.

3-5. **DECISION LEVEL.** The level of the decision maker should correspond to the level of the risk. The greater the risk the more senior the final decision maker should be.

- It should be understood that masters aboard Army watercraft who are underway, must make high risk decisions based on their judgement of the situation.
- Medium risk training warrants complete unit command involvement. If you cannot reduce the risk level, the company commander should decide to train or defer the mission.
- Operations with a high risk value warrant battalion involvement. If you cannot reduce the risk level, the battalion commander should decide to train or defer the mission.

3-6. **RISK CONTROL ALTERNATIVES.** The following options can help control risk

- Eliminate the hazard totally, if possible, or substitute a less hazardous alternative.
- Reduce the magnitude of the hazard by changing tasks, locations, times, and so on.
- Modify operational procedures to reduce risk exposure consistent with mission needs.
- Train and motivate personnel to perform to standards to avoid hazards.

3-7. **SUPERVISION.** Leaders must monitor the operation to ensure risk control measures are followed. Never underestimate subordinates' ability to sidetrack a decision they do not understand or support. You must also monitor the impact of risk reduction procedures when they are implemented to see that they really work. This is especially true of new, untested procedures.

3-8. **PAYOFFS.** Risk management gives you the flexibility to modify your mission and environment while retaining essential mission values. Risk management is consistent with METT-T decision processes and can be used in battle to increase mission effectiveness.